ſaw ſome creatures, which tho they had the figures of little animals, yet could I perceive no life in them, how attentively ſoever I beheld them.

The ſame day at night, about 11 a clock, I diſcover'd ſome few living creatures: But the 3*d* of *June* I obſerved many more which were very ſmall, but 2 or 3 times as broad as long. This water roſe in bubbles, like fermenting beer.

The 4*th* of *June* in the morning I ſaw great abundance of living creatures; and looking again in the afternoon of the ſame day, I found great plenty of them in one drop of that water, which were no leſs than 8 or 10000, and they looked to my eye, through the Microſcope, as common ſand doth to the naked eye. On the 5*th*, I perceived, beſides the many very ſmall creatures, ſome few (not above 8 or 10 in one drop) of an oval figure, whereof ſome appear'd to be 7 or 8 times bigger than the reſt.

The 6*th*, thoſe animals were as before; but the 8*th*, the oval animals were increaſed in number, ſwiming among the ſaid very ſmall creatures; and now they were all very near of one and the ſame bigneſs. The 9*th*, the oval creatures appear'd yet in greater numbers, but the very ſmall ones, in leſs number; and now, uſing a particular method in obſerving, I noted, that the feet, wherewith the animals were furniſh't, did plainly move, & that with an incredible ſwiftneſs: And me thought, that now & then I ſaw, that the globuls, of which I ſaid that the greateſt part of their body was made up, were not perfectly round, but that every one of them had a prominent point. Theſe creatures were, to my eye, eight times ſmaller than the eye of a Louſe.

Some new Obſervations made by Sig. Caſſini *and deliver'd in the* Journal des Scavans, *concerning the two Planets about* Saturn, *formerly diſcover'd by the ſame, as appears in N.* 92. *of theſe Tracts.*

ONe of theſe 2 Planets, which is diſtant from the Center of *Saturn* 10 diameters and a half of his Ring, maketh his revolution about *Saturn* in 80 days. He was diſcover'd at the Pariſian Obſervatory, *A.* 1671. about the end of *Oct.* and in the beginning of *Nov.* in his greateſt Occidental digreſſion, and after many cloudy days he ceaſed to appear, for a reaſon which was then unknown, but hath been diſcover'd ſince. For, after that many revolutions of this ſmall Planet had been obſerv'd, he was found to have a period of apparent Augmentation & Diminution, by which period he becomes viſible in his greateſt *Occidental* digreſſion, and inviſible in his greateſt *Oriental* digreſſion.

It is certain, that this viciſſitude of Augmentation and Di-

minution,

minution, of appearing and diſappearing, doth not befall him upon the account & by reaſon of the variation of his Diſtance from the Earth and from the Sun: For, beſides that in one revolution of this Planet about *Saturn*, he varies not the hundredth part of his diſtance; his moſt ſenſible diminution appears then, when being in the upper part of his circle he deſcends towards the lower part, approaching to the Sun and the Earth.

'Tis alſo certain, that this viciſſitude doth not befall him from the different expoſition of this Star to the Earth and to the Sun, as it comes to paſs in the increaſe and decreaſe of the Moon, foraſmuch as in this great diſtance he is always expoſed to the Earth and the Sun, as the Globe of Saturn himſelf, whom we always ſee full of light, without a ſenſible difference between the Oppoſitions and the Quadratures.

But it ſeems, that one part of his ſurface is not ſo capable of reflecting to us the light of the Sun which maketh it viſible, as the other part is. Whence we may conjecture, that the Globe of this Satellit hath ſome diverſity of parts analogous to that of the earth, the one part of whoſe ſurface is cover'd by the Sea, which is not ſo fit to reflect from all parts the light of the Sun, as the Continent which maketh up the other part: So that this Planet by a converſion about his Axis, or by an expoſition of the ſame Hemiſphere to Saturn (much after the manner of the Hemiſphere of the Moon to the Earth,) ſometimes turns to us the part analogous to the Continent, ſometimes that part w^{ch} anſwers to the Sea.

This viciſſitude of *phaſes* in this Planet was the cauſe, that he could not be found ſince he was firſt diſcover'd in the year 1671, till the midſt of *Dec.* 1672; after which time he diſappeared once again until the beginning of *Febr.* 1673; at which time, having been obſerv'd 13 days ſucceſſively, he afforded us the opportunity of determining the period of his motion.

Since that time, as often as Saturn hath been diſtant enough from the Sun to enable one to diſcern this Planet, he hath always been ſeen in all his Occidental Digreſſions, and in the Conjunctions with Saturn, which have ſince happen'd with a great latitude, as well in the upper part of his circle as in the lower, & he could never be ſeen in his Oriental digreſſions, where he remains inviſible in every revolution of 80 days for a whole month together.

He begins then to appear 2 or 3 days *before* his conjunction in the inferior part, and to diſappear 2 or 3 days *after* his conjunction in the ſuperior part. And ſometimes after he hath begun to diſappear in a Teleſcope of 32 foot, he hath been ſought for with a Teleſcope of 45 foot, but in vain.

The ſequel of the Obſervations hath confirm'd, that the period of 80 days, which was yet ſomewhat doubtful in the ſecond diſcovery, is ſufficiently juſt, and that he doth not anticipate 9 revolutions, which are made in 2 years, but by one whole day; & that in the Conjunctions with Saturn his Latitude augments on the one and the other ſide, according as the ring of Saturn enlargeth it ſelf; though the line of his motion is not parallel to the circumference of the ring: w^{ch} was noted in the firſt Obſervations.

The other Planet, which was diſcover'd about the end of the year 1672, hath his greateſt digreſſion from the Center of Saturn only 1 diameter and 2 thirds of his Ring, and the period of his revolution about Saturn is 4 days and a half, but more preciſely 4 days, 12 hours, & 27 min. His Latitude augments alſo according as the Ring enlargeth, and at the preſent that the largeneſs of the Ring is greater than the Diameter of the Globe of Saturn, he is to paſs in the Conjunctions without touching neither Saturn nor his Ring. Yet notwithſtanding we have not yet been able to diſtinguiſh him in the Conjunctions either in the upper or lower part of his circle; but only in his greateſt, as well Oriental as Occidental, digreſſions. And this Satellit being alternately one day towards his conjunction, and the other day towards his digreſſion, he is ordinarily not ſeen but every third day, and rarely 2 days together, when it falls out that at the hour of Obſervation he is in the middle betwixt the conjunction and digreſſion.

Laſtly, the apparent magnitude of theſe Planets is ſo little, that poſterity will have cauſe to wonder, that their diſcovery was begun by a Glaſs of 17 foot.

And foraſmuch as we have endeavour'd with the ſame attention and care to obſerve, whether there be not the like Planets about *Venus* and *Mars*, and have not been able to find any, even then when their diſtance from the Earth was 20 or 30 times leſs than that of Saturn, it may thence be concluded, that *Venus* and *Mars* have no Satellits, whoſe ſurface enlighten'd by the Sun and expoſed to the Earth is not 20 or 30 times leſs than that of the two Satellits of Saturn, and leſs capable of reflecting the light of the Sun.

An Account of ſome Books:

I. *PHARMACOPOEIA Collegii Regalis Lond. A. 1677. in fol.*

THis new Edition, reviewed by the Royal Colledge of the Learned Phyſitians of *London*, hath theſe conſiderable advantages over the former, that great care hath been taken, not only to correct the many Typographical faults committed in the